

A NEW CLEMATIS FROM NORTHEASTERN ALABAMA

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In early May 1980, while collecting specimens from open and wooded lowlands along Dry Creek, south of the town of Ashville, St. Clair County, Alabama, I was startled by the bright blue of some tight clones of a "Viorna" type *Clematis*, these being rooted in a wet, sticky clay in highway right-of-way, but extending in some cases into adjacent swamp woodland. In addition to the striking density of the stems within clones there was the low but erect, definitely not viney, habit, the narrowness of leaf and the tendency of many shoots to produce but a single flower. Yet, though so many stems had but a single bloom, the overall effect of the clones was very showy because of their compactness. In digging some specimens from a patch I noticed that the stems indeed were interconnected by a branching system of deep-set pale brown rhizomes.

Comparison later of my material with that of *Clematis* at VDB likewise proved interesting in that, of the "Viorna," there are few that have bractless peduncles as did my specimens, and only one, *Clematis baldwinii* T. & G., combines this with an erect habit and flowers in the blue-purple range. Yet at the same time, were my plants to have a viney habit, their greatest affinities would be with the bractless-peduncled *C. crispa* L.

I returned to the locality on 16 May, again on 3 July, to sample fruit as well as to determine if the erect habit might not be merely an early stage or perhaps a result of cutting back of plants, in that most are in cleared area along a highway. However, it now appears that, throughout the season, the plants retain an erect, sparingly branched, tendril-less habit regardless of whether they are growing in cleared right-of-way or back in adjacent wooded border. Thus, while there definitely are resemblances to narrow-leaved extremes of the widespread *Clematis crispa*, there are strong distinctions, particularly in the development of rhizomes (a unique feature!), in stem habit, and in habit of flowering. These are set down in the following diagnosis and description:

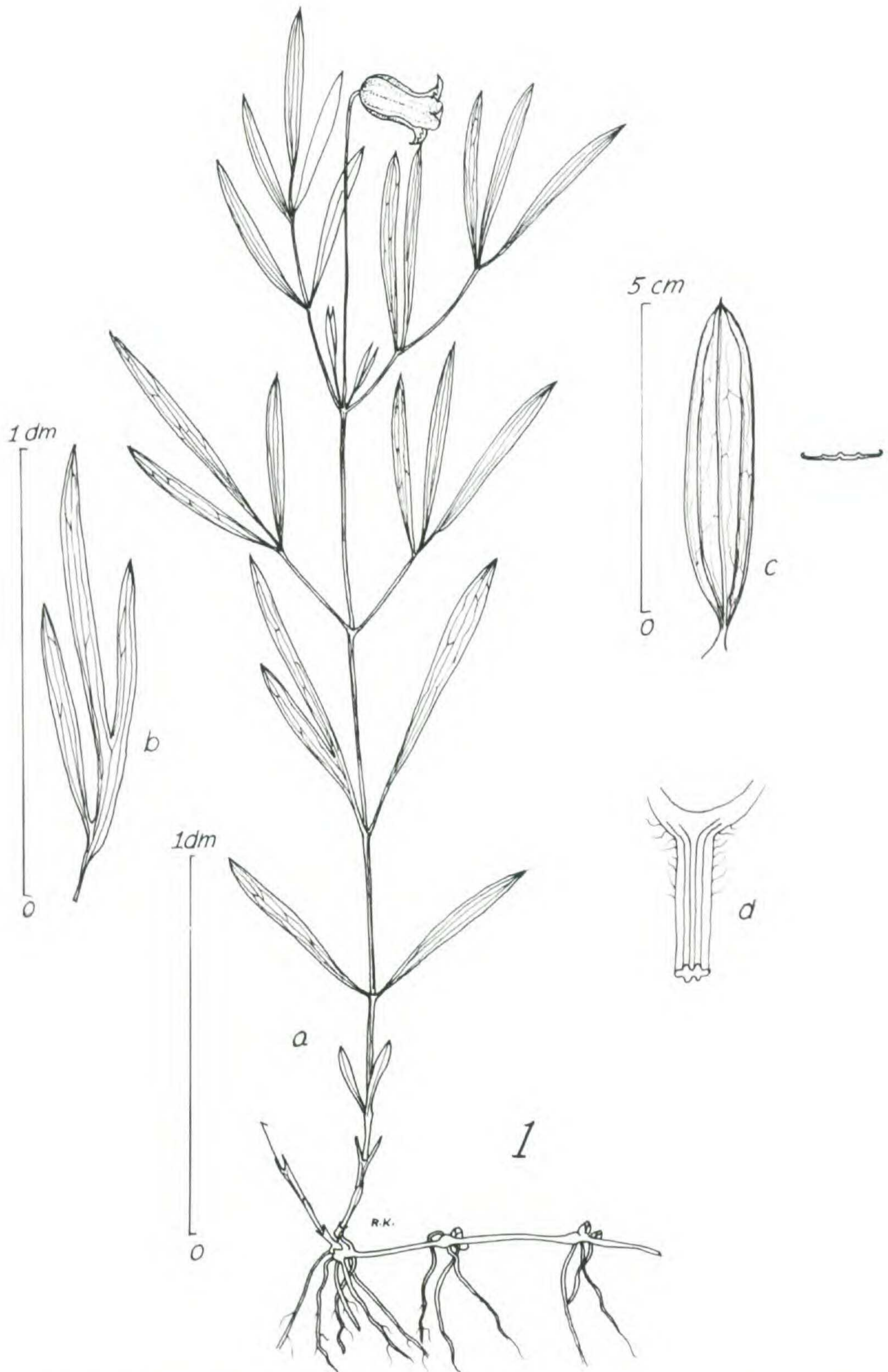


Fig. 1. *Clematis socialis*. a. habit sketch; b. cauline leaf extreme; c. leaflet, lower surface, cross-section; d. section of stem, node. From *Kral 64852*.

***Clematis socialis* Kral, sp. nov.**

C. crispae L. affinis sed rhizomate, caulibus humilibus erectis vel ascendentibus, non scandentibus, foliis et foliolis angustioribus magis coriaceis, floribus solitariis vel paucis, notabilis.

Herbs superficially similar to *C. crispae* but forming dense clones by slender, horizontally spreading and branching rhizomes 2–3 mm thick. Stems erect or ascending from narrow erect caudices, solitary or in small clusters, simple or sparingly branched from penultimate nodes, mostly 2–3 (–5) dm high, the internodes several, the lowest shortest, 2–3 mm thick, the leafy ones longest, mostly 3–7, 1.5–2.0 mm thick, bright green or with purplish tints, glabrescent or with some persistent, pale villosity at and around nodes. Lowermost leaf pairs scale-like, oblong or triangular, mostly under 1 cm long, smooth; lower foliage leaves simple, sessile or short-petiolate, with blades mostly elliptic-linear, rarely spatulate, linear-lanceolate, or linear-oblongate (3–) 4–12 (–15) cm long, (0.3–) 0.5–1.0 (–1.5) cm wide, ascending or erect, with longer petioles at upper nodes, there becoming pedately trilobate with segments narrow as in simple blades, or pinnately compound, with petioles shorter than leaflets, arching-spreading or arching-ascending, the leaflets mostly 3–5, terminal longest, all shaped as in simple leaves, erect, somewhat secund, acute, mucronate, the mucro purplish, glandular, the margin entire, slightly revolute, the base narrowly acute or cuneate, both surfaces pale bright green, glabrescent or with sparse villosity along main veins beneath and on petiole and rachis, the main veins mostly 3 (to 7 in larger leaves or leaflets), strongly raised beneath, the pattern brochiodromous. Flowers urceolate to campanulate, spreading or nodding, solitary at tips of erect, slender, teretish, low-ribbed, variably elongated, purplish-tipped, smooth to apically villosulous peduncles. Sepals at anthesis lance-oblong or slightly panduriform, 2.0–2.5 (–3.0) cm long, apically spreading or recurved, acute to acuminate, thickest at the cupped base, the margin toward apex thin, dilated-crispate, medially and proximally entire, the convex backs pale but bright blue-violet, sparingly puberulent and strigillose, particularly on the 3–5 raised nerves, more densely so apically, white-villosulous-tomentulose marginally and on the apical petaloid dilation, the inner surface smoothish save at margin, proximally yellowish, faintly impressed-venose, distally blue-violet. Stamens yellowish, the outer ones slightly larger, all linear, 1.8–2.0 cm long, filaments 1.0–1.5 cm long, to 1 mm broad, pilose; anther

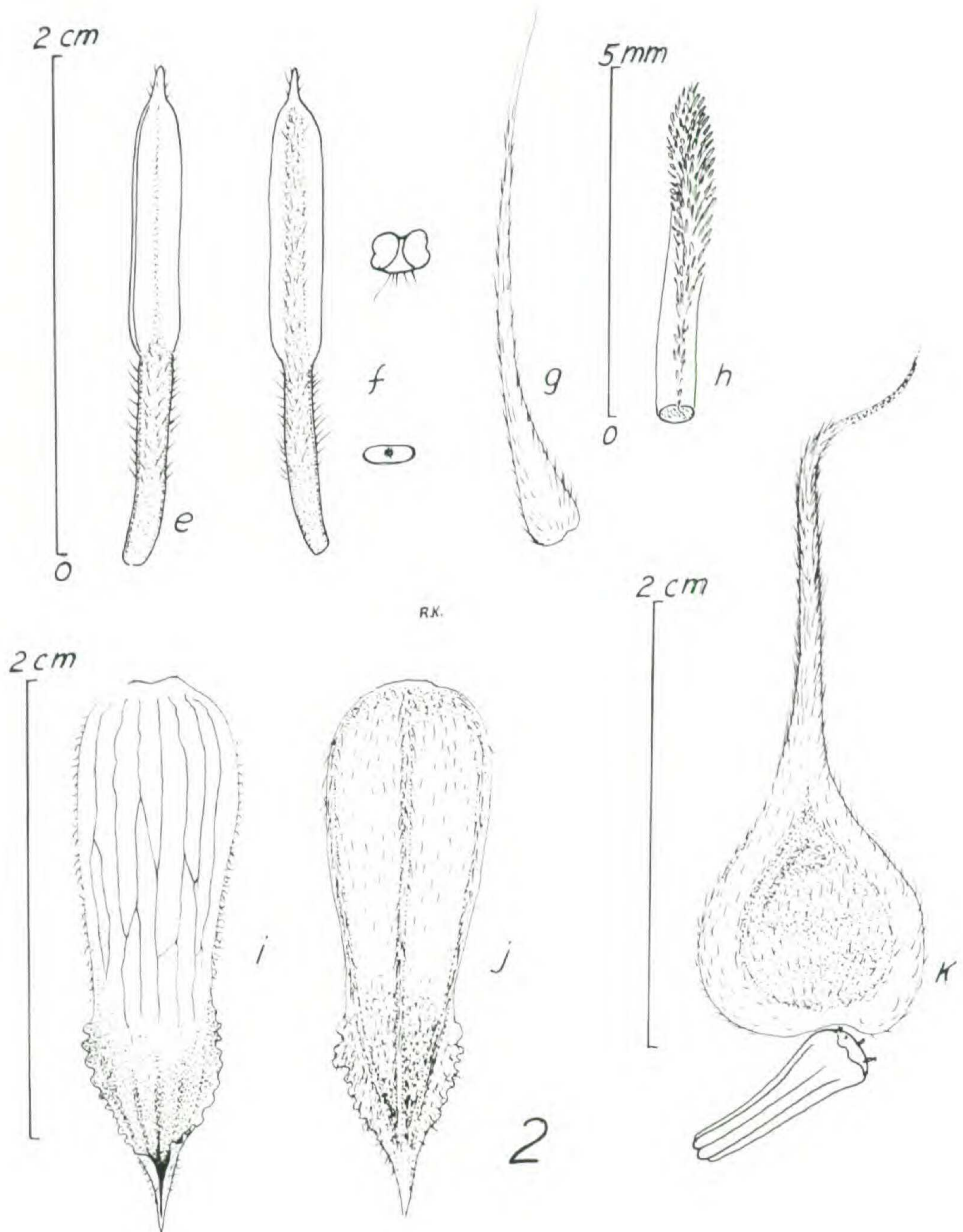


Fig. 2. *Clematis socialis*. e. posterior view of stamen; f. anterior view of stamen, cross section of filament, anther; g. young carpel; h. apex of style, stigmatic zone; i. inner side of sepal; j. external side of sepal. From *Kral 64852*. k. mature akene, apex of fruiting peduncle. From *Kral 65958*.

connectives pilose dorsally, apically apiculate. Carpels 1.2–1.5 cm long, the bodies lanceolate, tapering gradually into the elongate styles, the stigmas lineal, 4–5 mm long, smooth save for the bevelled, hairy ventral surface and stigma line, the surface otherwise concealed by a dense, silvery subappressed tomentum. Akene including style 2.5–3.0 cm long, the ovate body ca. 1 cm long, flattened over the seed, marginally spongy-thickened, wire-like, the apex acute, the surfaces appressed-strigillose-puberulous.

TYPE: ALABAMA. St. Clair Co.: silt and clay of alluvial, grass-sedge openings in bottoms of Dry Creek and contiguous hardwood-forested edges, ca. 3 mi. s. Ashville, 2 May 1980, *R. Kral 64852*. Holotype at US. Isotypes to be distributed. Additional material; 16 May 1980, *Kral 65108*; 3 July 1980, *Kral 65958*.

The lowland area immediately south of Ashville toward Beaver Creek Mountain is of considerable floristic interest, being characterized largely by numerous prairie-like openings, some of the more notable species in these being *Andropogon gerardi*, *A. scoparius*, *Panicum virgatum*, *Tripsacum dactyloides*, *Scirpus lineatus*, *Fimbristylis puberula*, many *Carex*, including the rather rare *C. meadii*, *Ranunculus fascicularis*, *Polygala sanguinea*, many Violets but particularly *V. pedata* & *V. sagittata*, *Asclepias viridis*, *A. hirtella*, *Phlox pilosa*, *P. amoena*, *Penstemon laevigatus*, etc., together with a wealth of composites including several common to southern and western prairie such as *Silphium terebinthinaceum*, *S. laciniatum*, *Liatris spicata* & *L. aspera*. The low areas from which the *Clematis* comes are grass-sedge dominated, some common species being *Eleocharis tenuis*, *E. compressa*, *Scirpus atrovirens*, *S. lineatus*, *Rhynchospora caduca*, *R. corniculata*, many carices, particularly *C. lurida*, *C. flaccosperma*, *C. tribuloides*, *C. squarrosa*, *C. granularis*, *C. debilis*, *C. festucacea*, *Glyceria striata*, *Poa*, *Juncus effusus*, *J. coriaceus*, *J. marginatus*, *J. filipendulus*, *Sisyrinchium atlanticum*, *S. langloisii*, and some common dicots being *Thalictrum*, *Ptilimnium costatum*, *Cicuta maculata*, *Phlox glaberrima*, *Penstemon laevigatus*, *Gratiola floridana*, etc. Surrounding forest, in the uplands is mostly pine-hardwood, the dominant pine being *P. taeda*; in the lowlands along the streams there are some cypress, but mostly mixed bottomland hardwoods, mainly willow oaks, southern hackberry, lowland hickory, and elms, with an understory principally of *Ilex decidua*, *Amorpha*, *Cornus*. There is considerable evidence of

logging disturbance, and of course some of the highway right-of-way had to be cut through wooded bottoms. However, there are sufficient prairie species in the area to convince the observer that some openings were present prior to white settlement. The soil has a high hydroperiod, is mostly a sticky admixture of silt, clay, and fine sand, probably circumneutral or slightly basic in the root zone of the *Clematis*. It is a good *C. crispa* habitat, though none of this species is in evidence.

While the relationships of *C. socialis* are plainly with *C. crispa*, and while Keener (1975) and others before him indicate a large number of segregates for this widespread species that ranges in low areas through the southeast save for Delaware, Maryland and West Virginia, it is difficult to place the "new" *Clematis* sensibly within *C. crispa* for the following reasons:

1. The stem habit is lower, erect, absolutely unvinelike, very comparable to that of *C. baldwinii*, a Floridean species that differs markedly in character of flower (larger, more purple) and fruit (larger, longer and plumose-tailed). No tendrils are produced.

2. Plants increase by means of spreading and forking rhizomes, the result being dense clones of sometimes hundreds of erect or erectish shoots. This would seem to be unique at least for *Clematis* of the southeastern USA.

3. Many plants produce but a single flower. Others may produce a pair of flowering shoots from the next node down, which very rarely may later rebranch and flower. The bractless peduncle is a *Clematis crispa* character; the flowering habit is not.

4. The leaves, in the context of other southeastern "Viorna" are narrower except in the case of extremes of *Clematis baldwinii* or *C. crispa* (var. *walteri* (Pursh) Gray). While the flower is much like that of *C. crispa*, it ranges smaller.

There is reason for some haste in publishing this note. So far I have seen this odd *Clematis* in but one small area totalling perhaps an acre, and most of this is along a U.S. highway, thus subject to the whim of the Highway Department. Contiguous private land in which the plant grows is being rapidly developed, mostly for housing. This means drainage and timbering, quite probably obliteration of the entire habitat in the near future. A careful check has so far revealed but six clones. It is thus reasonable that *C. socialis* qualifies as an endangered species, and that it be so nominated.

In 1981 an effort will be made to lift some specimens for purpose of propagation. Rearing some from seed and a subsequent study of the biology of *C. socialis* may reveal a better proof than is now available to me. It is a beautiful plant! The dense, low habit, the compact masses of bluish bloom set atop attractive foliage make it an excellent horticultural choice.

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